

### Abstract

RE superconductive layer of high critical current density ( $J_c$ ) is superimposed on an interlayer formed so as to, while ensuring cracking prevention, excel in crystallinity, such as in-plane orientation degree and direction, and surface smoothness. On an oriented Ni substrate, there are sequentially superimposed an interlayer of cerium oxide loaded with 20 to 60 mol%, in terms of metal content, of one or at least two rare earth elements according to MOD technique and an RE superconductive layer of high  $J_c$  according to MOD technique. The above interlayer is formed by mixing a Gd, Y and/or Yb organometallic compound solution with a Ce organometallic compound solution, applying the mixed solution onto an oriented Ni substrate so as to form a coating film and subjecting the coating film to calcination heat treatment and thereafter firing in an Ar- $H_2$  atmosphere at 950 to 1150 °C under a pressure of 50 to 500 Pa. YBCO superconductive layer is formed on this interlayer according to TFA-MOD technique.